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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---------------------------------------------------------------------------------------------------------------|-------------|----------------------|---------------------|------------------|
| 09/745,996 | 12/26/2000 | Shoji Goto | 001717 | 1382 |
| 38834 | 7590 | 03/29/2004 | EXAMINER | |
| WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036 | | | PERILLA, JASON M | |
| | | ART UNIT | | PAPER NUMBER |
| | | 2634 | | 8 |
| DATE MAILED: 03/29/2004 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) |
|------------------------------|------------------------|---------------------|
| | 09/745,996 | GOTO, SHOJI |
| Examiner | Art Unit | |
| Jason M Perilla | 2634 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 26 December 2000.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-16 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) Claim(s) _____ is/are allowed.
6) Claim(s) 4,7,8,12,15 and 16 is/are rejected.
7) Claim(s) 1-3,5,6,9-11,13 and 14 is/are objected to.
8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 26 December 2000 is/are: a) accepted or b) objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/6.

- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ .

5) Notice of Informal Patent Application (PTO-152)

6) Other: ____ .

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) received on February 20, 2001 (paper no. 2 in the file) is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.
3. The information disclosure statement (IDS) received on August 5, 2002 (paper no. 6 in the file) is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Objections

4. Claim 1 recites the limitation "said part of samples" in line 15. There is insufficient antecedent basis for this limitation in the claim.
5. Claim 1 recites the limitation "said rest of samples" in line 20. There is insufficient antecedent basis for this limitation in the claim.
6. Claim 2 recites the limitation "said predetermined number" in lines 8 and 10. There is insufficient antecedent basis for this limitation in the claim. The limitation, "said predetermined number" should be replaced so that the claim is not indefinite. The examiner notes that "said predetermined number" may be replaced by --said predetermined number of storage circuits--.

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7. Claim 2 recites the limitation "said storage circuits" in line 12. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 4 recites the limitation "said second predetermined number" in line 11. There is insufficient antecedent basis for this limitation in the claim.

9. Claim 4 recites the limitation "said second predetermined number of correlation value calculating means" in line 17. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 5 recites the limitation "said predetermined number" in lines 8 and 10. There is insufficient antecedent basis for this limitation in the claim. The limitation, "said predetermined number" should be replaced so that the claim is not indefinite. The examiner notes that "said predetermined number" may be replaced by --said predetermined number of storage circuits--.

11. Claim 5 recites the limitation "said storage circuits" in line 12. There is insufficient antecedent basis for this limitation in the claim.

12. Claim 7 recites the limitation "said first predetermined number" in lines 8 and 12. There is insufficient antecedent basis for this limitation in the claim. The limitation, "said predetermined number" should be replaced so that the claim is not indefinite. The examiner notes that "said predetermined number" may be replaced by --said predetermined number of storage circuits--.

13. Claim 7 recites the limitation "said storage circuits" in line 15. There is insufficient antecedent basis for this limitation in the claim.

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14. Claim 7 recites the limitation "said second predetermined number" in line 30.

There is insufficient antecedent basis for this limitation in the claim.

15. Claim 7 recites the limitation "said second predetermined number of correlation value calculating means" in lines 35 and 57. There is insufficient antecedent basis for this limitation in the claim.

16. Claim 9 recites the limitation "said part of samples" in line 22. There is insufficient antecedent basis for this limitation in the claim.

17. Claim 9 recites the limitation "said rest of samples" in line 27. There is insufficient antecedent basis for this limitation in the claim.

18. Claim 10 recites the limitation "said predetermined number" in lines 15 and 17. There is insufficient antecedent basis for this limitation in the claim. The limitation, "said predetermined number" should be replaced so that the claim is not indefinite. The examiner notes that "said predetermined number" may be replaced by --said predetermined number of storage circuits--.

19. Claim 10 recites the limitation "said storage circuits" in line 19. There is insufficient antecedent basis for this limitation in the claim.

20. Claim 12 recites the limitation "said second predetermined number" in line 18. There is insufficient antecedent basis for this limitation in the claim.

21. Claim 12 recites the limitation "said second predetermined number of correlation value calculating means" in line 23. There is insufficient antecedent basis for this limitation in the claim.

22. Claim 13 recites the limitation "said predetermined number" in lines 15 and 17. There is insufficient antecedent basis for this limitation in the claim. The limitation, "said predetermined number" should be replaced so that the claim is not indefinite. The examiner notes that "said predetermined number" may be replaced by --said predetermined number of storage circuits--.

23. Claim 13 recites the limitation "said storage circuits" in line 19. There is insufficient antecedent basis for this limitation in the claim.

24. Claim 15 recites the limitation "said first predetermined number" in lines 15 and 19. There is insufficient antecedent basis for this limitation in the claim. The limitation, "said predetermined number" should be replaced so that the claim is not indefinite. The examiner notes that "said predetermined number" may be replaced by --said predetermined number of storage circuits--.

25. Claim 15 recites the limitation "said storage circuits" in line 22. There is insufficient antecedent basis for this limitation in the claim.

26. Claim 15 recites the limitation "said second predetermined number" in line 37. There is insufficient antecedent basis for this limitation in the claim.

27. Claim 15 recites the limitation "said second predetermined number of correlation value calculating means" in lines 42 and 60. There is insufficient antecedent basis for this limitation in the claim.

28. Claims 2, 4, 5, 7, 9, 12, 13, and 15 are objected to because of the following informalities:

Regarding claim 2, "storage circuits at predetermined timing" of line 15 should be replaced by --storage circuits at a predetermined timing-- to provide clear antecedent basis for "said predetermined timing" of line 18.

Regarding claim 4, "a second predetermined number of groups" is provided for in line 7. However, there is no antecedent basis for a first predetermined number of groups. The examiner notes that there is a first predetermined number of samples, but not a first predetermined number of groups. Hence, it is suggested by the examiner that "a second predetermined number of groups" is replaced by --a first predetermined number of groups--.

Regarding claim 5, "storage circuits at predetermined timing" of line 15 should be replaced by --storage circuits at a predetermined timing-- to provide clear antecedent basis for "said predetermined timing" of line 18.

Regarding claim 7, "a second predetermined number of groups" is provided for in line 30. However, there is no antecedent basis for a first predetermined number of groups. The examiner notes that there is a first predetermined number of storage circuits, but not a first predetermined number of groups. Hence, it is suggested by the examiner that "a second predetermined number of groups" is replaced by --a first predetermined number of groups--.

Regarding claim 7, "storage circuits at predetermined timing" of line 18 should be replaced by --storage circuits at a predetermined timing-- to provide clear antecedent basis for "said predetermined timing" of line 21.

Regarding claim 9, "storage circuits at predetermined timing" of line 22 should be replaced by --storage circuits at a predetermined timing-- to provide clear antecedent basis for "said predetermined timing" of line 24.

Regarding claim 12, "a second predetermined number of groups" is provided for in line 14. However, there is no antecedent basis for a first predetermined number of groups. The examiner notes that there is a first predetermined number of samples, but not a first predetermined number of groups. Hence, it is suggested by the examiner that "a second predetermined number of groups" is replaced by --a first predetermined number of groups--.

Regarding claim 13, "storage circuits at predetermined timing" of line 22 should be replaced by --storage circuits at a predetermined timing-- to provide clear antecedent basis for "said predetermined timing" of line 24.

Regarding claim 15, "a second predetermined number of groups" is provided for in line 17. However, there is no antecedent basis for a first predetermined number of groups. The examiner notes that there is a first predetermined number of storage circuits, but not a first predetermined number of groups. Hence, it is suggested by the examiner that "a second predetermined number of groups" is replaced by --a first predetermined number of groups--.

Regarding claim 15, "storage circuits at predetermined timing" of line 25 should be replaced by --storage circuits at a predetermined timing-- to provide clear antecedent basis for "said predetermined timing" of line 28.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

29. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

30. Claims 4, 7-8, 12, and 15-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 4, the "correlation value calculating means in said second predetermined number " in line 11 is not enabled by the specification. Even if the said second predetermined number is understood to be said second predetermined number of groups, the specification does not describe correlation value calculating means *in* said second predetermined number of groups. One skilled in the art does is not enabled by the specification to make or use a correlation value calculating means *in a* said second predetermined number of groups.

Further regarding claim 4, the examiner suggests the replacement of lines 11-14 in claim 4 with:

--a plurality of correlation value calculating means provided respectively corresponding to said first predetermined number of groups each for calculating a correlation value between samples of a corresponding group and said spreading code sequence--.

Regarding claim 7, the "correlation value calculating means in said second predetermined number " in line 30 is not enabled by the specification. Even if the said second predetermined number is understood to be said second predetermined number of groups, the specification does not describe correlation value calculating means *in* said second predetermined number of groups. One skilled in the art does is not enabled by the specification to make or use a correlation value calculating means *in* a said second predetermined number of groups.

Further regarding claim 7, the examiner suggests the replacement of lines 30-35 in claim 7 with:

--a plurality of correlation value calculating means provided respectively corresponding to said first predetermined number of groups each for calculating a correlation value between samples of a corresponding group and said spreading code sequence--.

Regarding claim 8, claim 8 is rejected as being dependent upon a rejected parent claim.

Regarding claim 12, the "correlation value calculating means in said second predetermined number " in line 18 is not enabled by the specification. Even if the said second predetermined number is understood to be said second predetermined number of groups, the specification does not describe correlation value calculating means *in* said second predetermined number of groups. One skilled in the art does is not enabled by the specification to make or use a correlation value calculating means *in* a said second predetermined number of groups.

Further regarding claim 12, the examiner suggests the replacement of lines 18-21 in claim 12 with:

--a plurality of correlation value calculating means provided respectively corresponding to said first predetermined number of groups each for calculating a correlation value between samples of a corresponding group and said spreading code sequence--.

Regarding claim 15, the "correlation value calculating means in said second predetermined number " in line 37 is not enabled by the specification. Even if the said second predetermined number is understood to be said second predetermined number of groups, the specification does not describe correlation value calculating means *in* said second predetermined number of groups. One skilled in the art does is not enabled by the specification to make or use a correlation value calculating means *in* a said second predetermined number of groups.

Further regarding claim 15, the examiner suggests the replacement of lines 37-41 in claim 15 with:

--a plurality of correlation value calculating means provided respectively corresponding to said first predetermined number of groups each for calculating a correlation value between samples of a corresponding group and said spreading code sequence--.

Regarding claim 16, claim 16 is rejected as being dependent upon a rejected parent claim.

Allowable Subject Matter

31. Indication of allowable subject matter is made regarding claims 1-3, 5, 6, 9-11, 13, and 14.

32. The following is a statement of reasons for the indication of allowable subject matter:

The prior art references of power saving digital matched filters do not execute the same power saving technique of the instant application. In particular, the references of the prior art do not disclose the division of a shift register into more than one sequence of registers wherein the register groups preceding the first register group are only activated if the first register group meets a predetermined correlation threshold indicating a good possibility of a match. Although other power saving techniques are utilized by the prior art, they do not disclose the same invention as disclosed in the instant application.

Conclusion

33. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art of record is cited to further show the state of the art with respect to digital matched filters with a power saving function.

U.S. Pat. No. 6075807 to Warren et al; Windowed digital matched filter.

U.S. Pat. No. 5999562 to Hennedy et al; Power management in a digital filter.

U.S. Pat. No. 5933447 to Tran et al; Filter with a low power requirement.

34. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Perilla whose telephone number is (703) 305-0374. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Chin can be reached on (703) 305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jason M Perilla
March 8, 2004

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